

CLAIMS

1. A method of manufacturing a tubular element having a sealing gasket arranged around an external surface thereof,  
5 the method comprising the steps of:

providing a continuous sealing strip;

forming the sealing strip into a shape that essentially corresponds to a perimeter of the tubular element;

10 cutting the sealing strip into a sealing strip portion having a length that essentially corresponds to the perimeter of the tubular element;

joining together a first and a second end of the sealing strip portion, so as to form the sealing gasket; and

fastening the sealing gasket around the perimeter of the tubular element.

2. The method of claim 1, wherein the step of forming the sealing strip comprises:

20 winding the sealing strip around a forming mandrel having a perimeter that essentially corresponds to a perimeter of the tubular element; and

after joining together the first and second ends of the sealing strip portion, transferring the sealing gasket onto the tubular element.

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3. The method of claim 2, wherein the step of forming the sealing strip comprises holding a first end of the sealing strip against a point on the perimeter of the forming mandrel.

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4. The method of claim 2, wherein the step of forming the sealing strip around a forming mandrel comprises rotating the forming mandrel around a center axis of the tubular element so as to arrange the sealing strip around the perimeter of the forming mandrel.

5. The method of claim 2, further comprising the step of  
arranging the first and second ends of the sealing strip  
portion adjacent each other and held against the forming  
5 mandrel.

10 6. The method of claim 1, wherein the step of forming the  
sealing strip comprises winding the sealing strip around a  
perimeter of the tubular element.

15 7. The method of claim 6, wherein the step of forming the  
sealing strip comprises rotating the tubular element around a  
center axis of the tubular element, so as to wind the sealing  
strip around the perimeter of the tubular element.

20 8. The method of claim 6, further comprising the step of  
arranging the first and second ends of the sealing strip  
portion adjacent each other and held against the tubular  
element.

9. The method of claim 1, wherein the step of providing a  
sealing strip comprises providing a continuous sealing strip.

10. The method of claim 1, wherein the step of providing  
25 a sealing strip comprises feeding the sealing strip from a  
supply of such sealing strip.

11. The method of claim 1, wherein the step of cutting  
the sealing strip comprises cutting it into a length which is  
30 essentially equal to the circumference of a portion of the  
tubular element where the sealing gasket is to be applied.

12. The method of claim 1, wherein the step of joining  
together the first and second ends of the strip portion

comprises arranging them adjacent each other, so as to provide  
a sealing gasket having a continuous profile.

13. The method of claim 1, wherein the step of joining  
5 together the first and second ends of the strip portion  
comprises arranging them in an overlapping manner.

14. The method of claim 1, wherein the step of joining  
together the first and second ends of the strip portion  
10 comprises one of a gluing operation, a vulcanization  
operation, a welding operation and a heat treatment operation.

15. The method of claim 1, wherein the step of fastening  
the sealing strip to the tubular element comprises clamping  
the sealing strip to the tubular element.

16. The method of claim 1, wherein the step of fastening  
the sealing strip to the tubular element comprises providing a  
circumferential groove near the tubular element end portion  
20 and arranging the sealing strip in the groove.

17. The method of claim 1, wherein the step of fastening  
the sealing strip to the tubular element comprises adhering  
the sealing strip to a surface of the tubular element.

25 18. The method of claim 1, wherein the step of fastening  
the sealing strip to the tubular element comprises folding an  
edge portion of the tubular element so as to squeeze the  
sealing strip portion with at least one folded edge portion of  
30 the tubular element.

19. The method of claim 1, wherein the tubular element is  
a ventilation duct component.

20. The method of claim 19, wherein the ventilation duct component comprises a thin-walled sheet metal structure.

21. An apparatus for manufacturing a tubular element  
5 having a sealing gasket arranged around its external surface, the apparatus comprising:

a sealing strip feeder for feeding a sealing strip;

a sealing strip winder for forming the sealing strip into a sealing gasket for the tubular element;

10 a cutter for cutting the sealing strip into a sealing strip portion having a length which essentially corresponds to the perimeter of the tubular element; and

15 a joiner for joining together a first and a second end of the sealing strip portion, so as to form the sealing gasket.

22. The apparatus of claim 21, further comprising a sealing strip supply.

23. The apparatus of claim 21, further comprising a rotator for rotating the tubular element relative to the sealing strip feeder.

24. The apparatus of claim 21, further comprising at least one gripping head for holding the sealing strip against the tubular element.

25. The apparatus of claim 21, wherein the joiner is configured to carry out one of a gluing operation, a vulcanization operation, a welding operation and a heat treatment operation.

26. The apparatus of claim 21, further comprising:  
a forming mandrel having a perimeter that essentially corresponds to the perimeter of the tubular element; and

an abutment for transferring the sealing gasket from the forming mandrel onto the tubular element.

27. The apparatus of claim 26, wherein the forming  
5 mandrel is rotatably arranged for winding the sealing strip  
around the forming mandrel.

28. The apparatus of claim 26, further comprising a  
sealing strip winder arranged to wind the sealing strip around  
10 the perimeter of the forming mandrel.

29. The apparatus of claim 28, further comprising at  
least one gripping head for holding the sealing strip against  
the forming mandrel.

30. The apparatus of claim 26, wherein the forming  
mandrel has a variable cross section so as to enable it to  
produce sealing gaskets having different diameters.

20 31. An apparatus for manufacturing a tubular element  
having a sealing gasket around its perimeter, the apparatus  
comprising:

means for feeding a sealing strip;

25 means for forming the sealing strip into a sealing gasket  
for the tubular element;

means for cutting the sealing strip into a sealing strip  
portion having a length which essentially corresponds to the  
perimeter of the tubular element; and

30 means for joining together a first and a second end of  
the sealing strip portion, so as to form the sealing gasket.

32. The apparatus of claim 31, further comprising:  
mandrel means having a perimeter that essentially  
corresponds to the perimeter of the tubular element; and

means for transferring the sealing gasket from the molding means onto the tubular element.

33. A ventilation duct component comprising a thin-walled, essentially tubular structure having a sealing gasket arranged around its perimeter, said sealing gasket comprising a sealing strip having a profiled cross section and two strip end portions, which are joined together so as to form an essentially continuous sealing gasket.

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34. The ventilation duct component of claim 33, wherein the two strip end portions are joined together by one of a gluing operation, a vulcanization operation, a welding operation and a heat treatment operation.

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35. The ventilation duct component of claim 33, wherein the sealing gasket is axially fastened to the tubular structure.

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36. The ventilation duct component of claim 35, wherein the sealing gasket is axially fastened to the tubular element by a clamping strap that is arranged around the sealing gasket and tightened.

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37. The ventilation duct component of claim 35 or 36, wherein the sealing gasket is axially fastened to the tubular element by arranging the sealing gasket in a circumferential groove.

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38. The ventilation duct component of claim 37, wherein the sealing gasket is axially fastened to the tubular element by adhering the sealing gasket to a surface of the tubular element.

39. The ventilation duct component of claim 35, wherein  
the sealing gasket is axially fastened to the tubular element  
by a folded edge portion of the tubular element, which  
squeezes at least a part of the sealing gasket between the  
5 folded edge portion and a non-folded portion of the tubular  
element.

40. The ventilation duct component of claim 33, wherein  
the two strip end portions are arranged in an overlapping  
10 manner.

41. The ventilation duct component of claim 33, wherein  
the two strip end portions are cut at an angle relative to the  
longitudinal direction of the strip.

42. The ventilation duct component of claim 33, wherein  
at least one of the two strip end portions is skived.